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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/766,331	01/29/2004	Kazuyoshi Ueichi		1256
<div>7590 07/20/2007</div> <div>George A. Loud, Esquire BACON & THOMAS Fourth Floor 625 Slaters Lane Alexandria, VA 22314-1176</div> <div>EXAMINER VAN, LUAN V</div> <div>ART UNIT 1753 PAPER NUMBER</div> <div>MAIL DATE 07/20/2007 DELIVERY MODE PAPER</div>				

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/766,331	Applicant(s) UEICHI, KAZUYOSHI	
	Examiner Luan V. Van	Art Unit 1753	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on January 29, 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 08/03/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Daiwan (JP pub 2002-256500) in view of Lewellen, Jr. et al. (US patent 4105526).

Regarding claim 1, Daiwan teaches barrel plating device, comprising: support members 1 (Fig. 2) combined together to face each other at a prescribed interval; hollow support shafts 17, 18 placed to be approximately level with each other, said hollow support shafts being mounted in a piercing form to said support members; a barrel 4 having a hollow drum part whose opposite ends are closed with end plates 14, the opposite ends of said barrel being supported to said support shafts in a rotatable condition; and a lead wire 7 having an electrode at a tip end and coated with an insulation layer (i.e., rubber, paragraph 14), said lead wire being inserted into a hollow

Art Unit: 1753

part of each support shaft in watertight and non-rotatable conditions in such a manner as to allow said lead wire to pierce through the corresponding end plate of said barrel.

Daiwan differs from the instant claims in that the reference does not explicitly teach a collar.

Lewellen, Jr. et al. teach a processing apparatus comprising a rotatable barrel supported from a stationary crossbar by a pair of stationary U-shaped hanger arm and collar bearing assemblies of rigid construction, with one assembly opposite each end of the barrel (see Abstract). The hanger arm and collar bearing assemblies eliminate many problems encountered in the prior art, such as corrosion and abrasion (column 6 lines 9-13).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the apparatus of Daiwan by using the collar of Lewellen, Jr. et al., because it would protect support members outside of the plating barrel from corrosion and abrasion (column 1 lines 19-29 and column 6 lines 9-13 of Lewellen, Jr. et al.).

Regarding claim 2, Daiwan teaches wherein each end plate of said barrel is composed of a body 16 and a boss- shaped member 20 mounted to said body, the hollow part of each support shaft has a large inside diameter part at a portion close to the barrel.

Daiwan differs from the instant claims in that the reference does not explicitly teach a collar or its specific dimensions.

The basis of the rejection for the collar parallels that given above in the rejection of claim 1. In addition, Daiwan teaches that the support shafts 17 and 18 consists of a narrow diameter portion 172, 182 inserted in the bearing 22 of the bearing device 15, and a flange 173, 183 attached in the major diameter portion of 171, 181 as a protrusion inhibition means of the major diameter (paragraph 13). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have further modified the apparatus of Daiwan and Lewellen, Jr. et al. by using a collar having a larger inside diameter, because it would enable the collar to be fitted into the support shafts of Daiwan, and because it would prevent the workpiece from entering the clearance of the insertion holes as suggested by Daiwan (paragraph 3 of Daiwan). With respect to the limitation of a thrust, such limitation is deemed to be a process limitation because it does not describe a structural element, and thus it is not given patentability weight.

Regarding claim 3, Daiwan teaches a bush member 23 made from super-high density polyethylene (paragraph 12). This bush member is broadly interpreted to be a low friction member and thus reads on the instant claim.

Regarding claim 4, Daiwan teaches a bush member 23 made from super-high density polyethylene (paragraph 12). Daiwan does not explicitly teach the specific bush dimensions of the instant claim. However, as noted above, Daiwan teaches that the support shafts 17 and 18 consists of a narrow diameter portion 172, 182 inserted in the bearing 22 of the bearing device 15, and a flange 173, 183 attached in the major diameter portion of 171, 181 as a protrusion inhibition means of the major diameter

Art Unit: 1753

(paragraph 13). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have further modified the apparatus of Daiwan and Lewellen, Jr. et al. by using a bush member having a larger inside diameter, because it would enable the bush member to be fitted into the support shafts of Daiwan, and because it would prevent the workpiece from entering the clearance of the insertion holes as suggested by Daiwan (paragraph 3 of Daiwan). With respect to the limitation of a thrust, such limitation is deemed to be a process limitation because it does not describe a structural element, and thus it is not given patentability weight.

Regarding claim 5, Daiwan teaches a lead wire 7 covered by rubber (paragraph 14) that is composed of a horizontal shaft part inserted into the hollow part of the corresponding support shaft 17, 18 and a downwardly part the integral with said shaft part and taking a forwardly downward slanting shape within said barrel (Fig. 5), said shaft part has a connection part 6 (Fig. 1) at a distal end, said a downwardly bent part has an electrode at a tip end (see Fig. 5), a lead wire 7 portion excepting said connection part and said electrode is coated with an installation layer (i.e., rubber, paragraph 14). An energizing member, such as a power supply, is inherently connected to the connection part, because it would provide the required electric current to electroplate the workpiece in the barrel.

Regarding claim 6, Daiwan teaches wherein said barrel is mounted to said each support shaft so as to be inclined to a rotation axis by a prescribed angle in a vertical direction (Fig. 2).

Art Unit: 1753

Regarding claim 7, Daiwan teaches wherein said barrel is mounted to said each support shaft so as to have a prescribed angle to the rotation axis in a horizontal direction (Fig. 2).

Regarding claim 8, Daiwan teaches wherein the electrodes of said lead wires located within the barrel face each other at a level lower than the rotation axis of the barrel and also are in an inclined position by a prescribed angle in a direction of rotation (Fig. 2).

Conclusion

The prior art made of record and not relied upon is considered pertinent to the applicant's disclosure. US patents 2762772, 3427034, and 2830946 are hereby made of record.

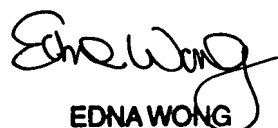
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Luan V. Van whose telephone number is 571-272-8521. The examiner can normally be reached on M-F 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam Nguyen can be reached on 571-272-1342. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 1753

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

LVV
July 16, 2007


EDNA WONG
PRIMARY EXAMINER

7/16/07